

*EXHIBIT II*  
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

To: John Shauver, Environmental Enforcement Div.      Subject: BASF Wyandotte Corporation  
From: Elmore Eltzroth, Environmental Services Div.  
Date: December 22, 1981

Attached is my report, maps and well records from our study at BASF Wyandotte in June of 1981. The report addresses the subsurface materials encountered and the occurrence and travel of groundwaters. Chemical data was submitted directly from the lab to Bill Murphy at his request. The maps are accurate copies of maps submitted to Engineering Division for final drafting.

I would appreciate copies of the laboratory results for our records.

*Elmore E. Eltzroth*

EE:mm  
cc: D. Rector (w/o attach)  
A. Hogarth " "

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DEC 22 1981

ENVIRONMENTAL ENFORCEMENT  
DIVISION

EPA Region 5 Records Ctr.



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MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION BUREAU  
POINT SOURCE STUDIES SECTION  
GROUNDWATER INVESTIGATION UNIT

Report of a  
Hydrogeological Investigation  
Conducted at  
BASF WYANDOTTE CORPORATION  
NORTH AND SOUTH WORKS  
Wayne County  
Wyandotte, Michigan  
June 1, 1981 through June 30, 1981  
and September 14, 1981

Summary

On June 1, 1981 we began a hydrogeological investigation at BASF Wyandotte Corporation in the City of Wyandotte. This was at the request of and under an administrative search warrant obtained by Environmental Enforcement Division. Our objective was to determine whether or not chemical wastes had been disposed of at suspected sites within the North and South Works. We collected sediment and water samples for analyses from 19 wells and 5 auger borings. Well locations and groundwater elevations are shown on the attached aerial photographs.

All shallow groundwater elevations except one (BW16) were above the Detroit River. This fact and the flow directions I could interpret from our data indicate that water infiltrating into the ground at this site discharges into the Detroit River. I believe the BW16 water elevation is due to nearby pumpage. The groundwater travels in a 5 to 20 foot thick surface layer of sand, crushed limestone, cinders and other materials. These appear to me to be largely a man-made fill above the organic peat and the clay found in many borings.

Four points, BW21 in the South Works and BW11, 12 and 33 in the North Works, showed thick deposits of clay-like "sludge" which could not have been deposited by geologic processes.

Procedures

Borings were made with a CME 55 auger using 3-1/4" ID hollow stem augers. Sediment samples were obtained with a 2" ID split tube sampler driven through the hollow stem augers. Two-inch galvanized casing and stainless steel screens were used to construct monitor wells (records attached). Most of the wells were artificially sand packed with #3 Gibraltar silica sand and the annular space was sealed with bentonite. Augers and sampling tools were washed with water between uses. Wells were developed and pumped with a piston pumping plunger operated off of a cathead with new leathers installed for each well. Wells were pumped for 30 minutes and water samples were then collected (except wells BW 3 and 4 and some phenol samples). Dual samples were collected in identical sample containers

by alternating containers every 1 to 5 pump strokes. Wells BW 3 and BW 4 were sampled by evacuating over 5 well volumes with a diaphragm pump and then sampling with stainless steel bailers. Drilling was completed on 6-25-81.

Water levels were measured using a chalked tape on 6-29-81. Wells BW 6, BW 7, BW 11 and BW 12 were sampled for phenols on 6-30-81 with a diaphragm pump. Wells in the north half of the North Works were remeasured on 9-14-81 to evaluate the affect of dewatering during the first measurements.

#### Sample Preservation

Samples were preserved according to present lab procedures, exceptions are noted on the sample sheets. Samples were packed in ice and delivered to appropriate labs with chain of custody records. Samples to the EPA central laboratory in Chicago were shipped air freight. Samples to the DNR Environmental Lab were transported directly by William Murphy or Elmore Eltzroth. Sample splits were provided directly to a BASF Wyandotte representative.

#### Site Discussion

##### Site #1

This is an open area just south of the polyol process facility in the North Works. Two wells, BW 3 and BW 4 and two soil borings BW 30 and BW 31 were constructed. The site generally consists of 5 to 8 feet of crushed limestone underlain by 3 to 7 feet of black "cinders" in the area of BW 4, BW 3, and BW 30. The black "cinders" in BW 4 had a noticeable sweet odor. We encountered a fine sand and silt at 11 to 14 feet. Wells BW 3 and BW 4 sample water in the black "cinder" or gravel layers. Groundwater is encountered 3 to 5 feet below surface and is moving east to the Detroit River. On June 29, 1981 the eastern edge of this site was dewatered for pipeline construction creating an artificial depression in the groundwater. Water levels and groundwater contours for September 14, 1981 show natural conditions. Wells BW 1 and BW 2 sample the same shallow groundwater upgradient from this site.

##### Site #2

This is the site of an old coke production and by-products area and is just east of Site #1. Two wells were installed; BW 6 and BW 7. BW 7 showed a "cinder" zone from 4 to 8 feet below surface with some odor. The well was constructed to sample this cinder zone. The water still showed black fine sediment after 30 minutes pumping and a very low production. For this reason no samples were taken during initial construction. The well was later sampled for phenols with a slower pumping diaphragm pump. BW 6 showed 3 to 5 feet of black cinders with an unusual odor lying 6 to 11 feet below the surface.

BW 6 samples waters in this cinder zone. Groundwater is encountered at about 3 feet deep and is moving northeast toward the Detroit River.

Site #3

This is an elevated site which was used for land disposal. We constructed 3 wells (BW 11, BW 12, BW 13) along the edges of the site and one boring (BW 33) in the middle of the site. BW 11 and BW 12 show 3 to 4 feet of cover material then about 12 feet of white to tan "clay-like sludge". A native soil surface appears at about 16 feet as indicated by fibrous plant material. BW 33 indicated 5 feet of various rubble and one foot of cinders overlying the "clay-like sludge". Well BW 13 did not encounter any "sludge". We attempted to sample waters in the gravel overlying the sand and silt. The yield was too low for the fine particles to clear. No samples were obtained and BW 13 was used only for water levels. BW 11 and BW 12 were constructed to sample water from the bottom of the "sludge". Water levels indicate a steep gradient from the coal pile to the northwest toward Site 3. I believe the water then moves north and eventually east to discharge in the Detroit River.

Sites #4 & #5

These are open areas on the south end of the North Works and just west of the large brine storage pond. Two wells (BW 17, BW 18) and one boring (BW 34) were installed in the site and one well was placed west of the site (BW 16).

BW 18 showed 4-1/2 feet of cinders from 3 to 7.5 feet below surface. A strong H<sub>2</sub>S odor was observed during drilling and sampling. H<sub>2</sub>S is common in shallow sediments in this part of the state. BW 17 encountered a thin (4") layer of white "clay-like" material at about 4 feet then generally sand and silt with an H<sub>2</sub>S odor.

BW 34 was similar to BW 18 with 9-1/2 feet of cinders mixed with sand. A rubber fragment was found at about 9 feet and the H<sub>2</sub>S odor was again detected. Well BW 16 was drilled as a background well. The groundwater elevations are somewhat surprising in this area. Groundwater elevations fall away to the west contrary to the general situation of an eastward flow. The elevated brine storage pond can be expected to provide some of this westward gradient. Well BW 16 has a groundwater elevation of 574.58 feet compared to an elevation of 575.08 feet for the Trenton Channel on the same date. The only probable explanation for this well being lower than river level is some type of artificial drainage with a pumping discharge. This could either be a subsurface drain to a lift station or a nearby dewatering project.

Site #6

This site is located in the southeast portion of the South Works. Two wells (BW 25 and BW 27) and one boring (BW 35) were installed.

The predominant material was a clay with gravel, possibly limestone screenings. A very resistant layer occurred at 9 feet in BW 27 and at 12 feet in BW 35. I believe this could be an old concrete layer due to the angular nature of the stones in BW 27. Water levels in BW 25, which did not penetrate this resistant layer, are 4.6 feet higher than BW 27. I believe BW 25 represents

a perched water condition. Both wells are higher than the river level of 575.16 feet and the area should discharge to the river.

Site #7

This site is at the north end of the South Works. Three wells (BW 19, 20 and 21) were installed at this site. Wells BW 19 and BW 20 show black "cinder" fill to about 4' where native clays are encountered. Wells were installed in the cinder zone. BW 21 encountered 6 feet of sand and gravel with some cinders overlying 8.5 feet of clay-like "sludge". This material varied from white to brown to grey with layers as thin as 1/2". An unusual odor was also detected. BW 21 was constructed to sample waters within this clay-like "sludge".

Water levels indicate a northeast gradient to the Detroit River.

Site #8

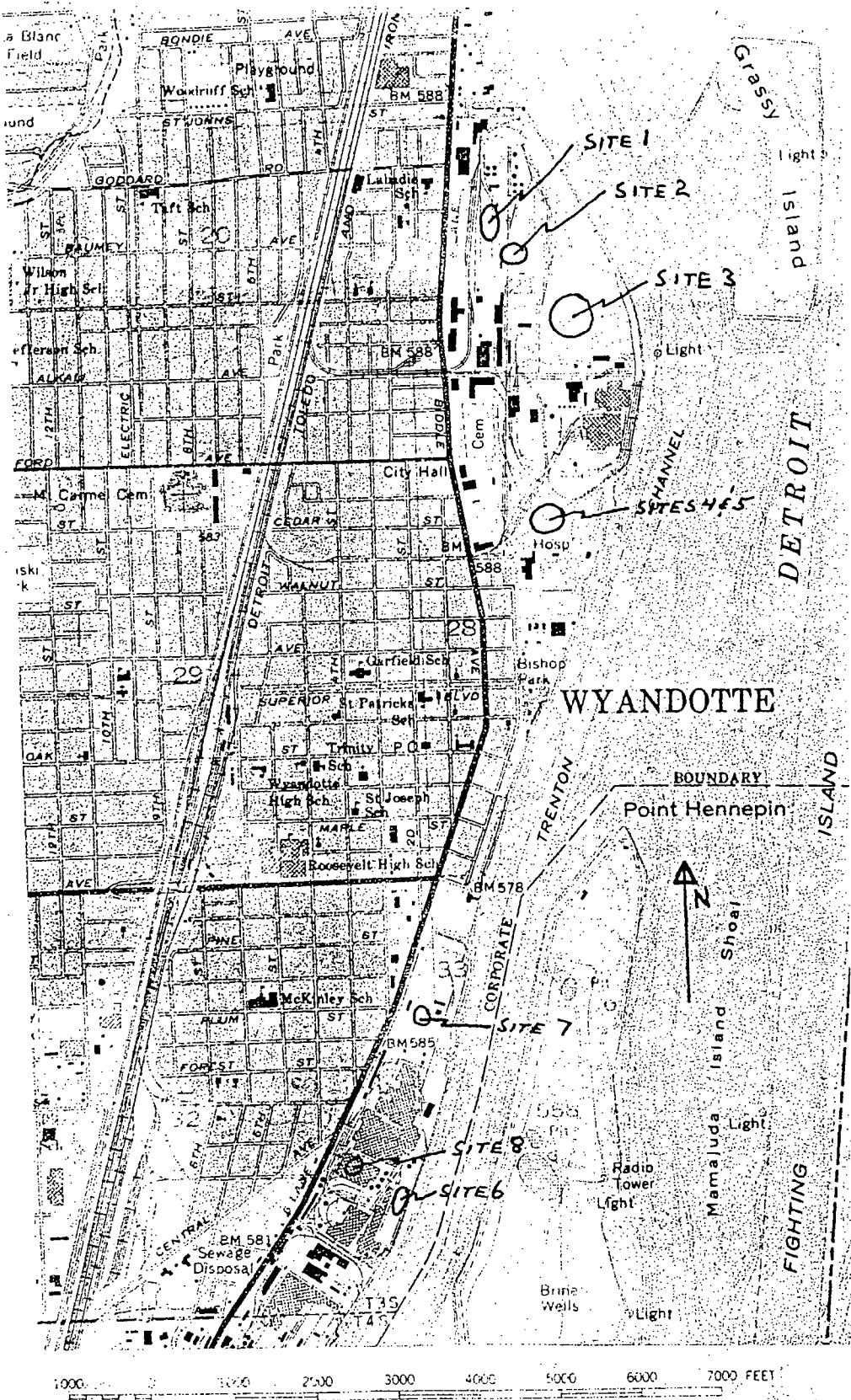
This site required several attempts to find a location where we did not have refusal at 2 feet (probably due to buried foundations). BW 23 encountered a sand with stones and some cinders to 6 feet where native clay was sampled. BW 22 was drilled as a background well. Both wells sample water from these shallow sands.

Water levels indicate a definite easterly gradient although we do not have enough data points to indicate a precise direction.

Drilling & Sampling by: Elmore Eltzroth, Project Geologist  
Charles Ingalls, Driller  
Jerry Parish, Driller's Assistant

Report Prepared by: Elmore Eltzroth, Project Geologist

*Elmore E. Eltzroth*



BASF Wyandotte Corporation  
Site Locations

Table 1. BASF, Wyandotte Corporation

Well Number	Elevations in Feet							Soil Borings
	Elevation		Groundwater Elevations					
	Ground	Top of Casting	Depth to Water	6-29-81	Elev.	Depth to Water	9-14-81	Elev.
BW 1	584.0	586.56	6.77	579.79		6.35	580.21	
BW 2	583.8	587.39	8.13	579.26		7.77	579.62	Hand Auger Site
BW 3	581.4	581.92	3.50	578.42		2.91	579.01	BW 12 Sed
BW 4	583.5	585.55	7.65	577.90		6.48	579.07	BW 30
BW 6	580.9	583.66	5.41	578.25		5.13	578.53	BW 31
BW 7	581.2	583.11	4.62	578.49		4.48	578.63	BW 33
BW 11	588.9	591.07	10.98	580.09		10.57	580.50	BW 34
BW 12	586.6	588.28	6.99	581.29		6.29	581.99	BW 35
BW 13	586.9	589.65	7.00	582.65		6.49	583.16	
BW 16	576.2	579.60	5.02	574.58				
BW 17	579.6	581.40	6.02	575.38				
BW 18	579.2	581.86	5.59	576.27				
BW 19	579.9	582.21	4.64	577.57				
BW 20	578.3	580.12	2.85	577.27				
BW 21	579.0	581.38	4.01	577.37				
BW 22	580.8	582.12	3.46	578.66				
BW 23	579.3	580.54	3.75	576.79				
BW 25	582.9	585.79	5.02	580.77				
BW 27	582.4	585.77	9.66	576.11				

Elevations surveyed by Engineering Division, Mich. D.N.R. on USC & GS Datum  
 Water levels measured by Elmore Eltzroth  
 Detroit River levels from N.O.A.A. Wyandotte gage at end of Oak Street

6-29-81 573.66 I.G.L.D. + 1.42 = 575.08 USC & GS  
 9-14-81 573.88 I.G.L.D. + 1.42 = 575.30 USC & GS

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT  
TEST WELL RECORD

WELL NO.

BWI

PERMIT NO.

914-812-482

PROJECT: BASE WYANDOTTE

LOCATION

COUNTY

WAYNE

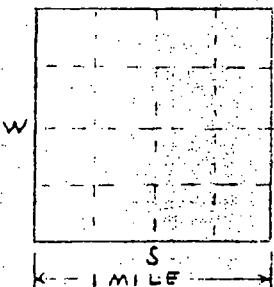
STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
MARK WITH "X"

SKETCH MAP OF LOCATION [NO SCALE]

N

SEE SITE MAP



DEPTH FROM	THICKNESS TO STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO	TYPE
0	1.5	TOPSOIL, black	HAND	
1.5	4	Sand, fine, red	AHLER	
4	5	Sand, fine, tan	AF	
5	6	(6" recovery)	AF	
		Sand, fine, brownish yellow, wet	SS	
6	10	Silt, grey, with clay and sand	AF	
10	12	(24" recovery) Clay, grey, firm, dry in bottom half	SS	SAND PACKED - 1 SACK

SECTION NO. TOWN RANGE  
T 35 NS R 11 E N

PROPERTY OWNER BASE WYANDOTTE  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.6 L-17-81

DRILLING METHOD(S) DEPTH(S)

HSA

CASING  
DIAMETER LENGTH WEIGHT  
2 IN. 9 FT 3.4 FT  
IN. FT. TYPE GALV  
WEIGHT

SCREEN: TYPE SS WW DIAM. 2"

SLOT/GAULE 7-10" LENGTH 2"

SET BETWEEN 6.6 FT. AND 8.6 FT.

WATER LEVELS FIRST NOTED AT 5 FT BELOW SURFACE

6-29-81 AFTER COMPLETION 6.77 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 6.35

GRD 584.0 T.D.C. 586.56  
SEALING METHOD 20 lb. Vinylite

CREWINGALLS, PARISH, ELTERTON

RECORD BY Elmore E. Elligette  
DATE  
REMARKS

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

GROUNDWATER INVESTIGATION INIT  
TEST WELL RECORD

WELL NO.  
**BW2**

PROJECT: **BASE WYANDOTTE**

PERMIT NO.  
**914-812-482**

LOCATION  
COUNTY

**WAYNE**

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

1/4 N E S

SECTION NO.

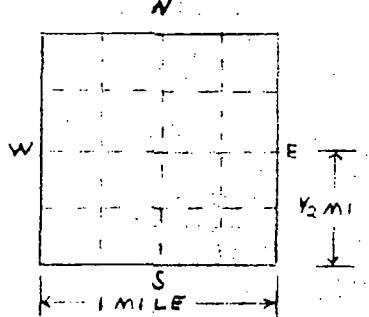
TOWN

**T3S**

RANGE

**R11E**

LOCATION IN SECTION  
MARK WITH "X"



SKETCH MAP OF LOCATION (NO SCALE)

See SITE MAP

N

↑

PROPERTY OWNER **BASE WYANDOTTE**  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

**6.9** 6-25-81

DRILLING METHOD(S) DEPTH(S)

HSA

CASING'S DIAMETER LENGTH HEIGHT ABOVE SURFACE  
**2 IN** **8.5FT** **3.6 FT**

TYPE **GRV**

IN. FT. WEIGHT

SCREEN TYPE **SS LOW** DIAM. **2"**

SLOT/GAULE LENGTH **1'**

SET BETWEEN **4.9 FT.** AND **6.9 FT.**

WATER LEVELS FIRST NOTED AT FT. BELOW SURFACE

**6-29-81** AFTER COMPLETION **8.13 FT.** BELOW SURFACE OR CASING TOP

SURFACE ELEVATION **9-14-81** **7.77**

6RD **5.83.8** T.D.C. **5.87.39**  
SEALING METHOD

**5"** powdered bentonite

CREW IN BALLS, PARISH, ELTZRODT

RECORD BY *Elmer S. Elgote*

DATE  
REMARKS

**SAND PACKED - 1 1/2 SACKS**

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 3

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-482LOCATION  
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

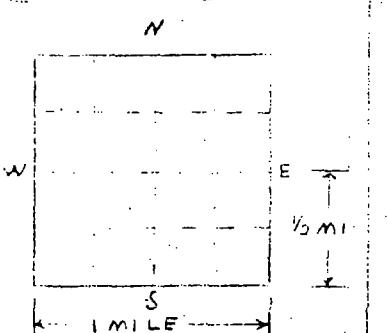
RANGE

T 3 S

N 1 E

LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION (NO SCALES)



SEE SITE MAP

N



DEPTH FROM TO	THICKNESS OR STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	SAMPLE TYPE
0 8		COBBLES & STONES w/ FINE LIMESTONE		AF
8 9 1/2	8 1/2	6" ls, "mud" grey 6" black, stoney 2" clayey, black 2" clay, dk brn w/some sand	BW3A SS (bottom 12")	
9 1/2 13		Gravel, limestone, fine black and tan angular pieces		AF
13 14	4 1/2	As Above but black in overall color		
14 16	2	Sandy, fine, brownish grey compact, some 1/2" stones	SS	

PROPERTY OWNER BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

10.5 6-2-81  
DRILLING METHOD(S) DEPTH(S)

HSA

CASING &  
DIAMETER LENGTH  
2 IN 9 FT  
IN. FT.  
TYPE GRV  
WEIGHT

SCREEN:

TYPE SS WW DIAM. 2"  
SLOT/GAULE 10(?) LENGTH 2'  
SET BETWEEN 8.5 FT. AND 10.5 FT.WATER LEVELS  
FIRST NOTED AT 2 FT BELOW SURFACE6-2-81 AFTER COMPLETION 3.50 FT BELOW  
SURFACE OR CASING TOP X

SURFACE ELEVATION 2.91 6-14-81

GRD 581.4 T.D.C. 581.92  
SEALING METHOD 1 1/2 PAILS VOLCLAY

CREW IN TALLS, PARISH, ELIZABETH

RECORDED BY Elmore E. Etzroth  
DATE  
REMARKSSAMPLE TYPE  
AF - AUBER FLIGHT  
SS - SPLIT SPOONSand packed w/ 1 1/2  
sacks silica sandPumping plunger stuck in  
well - had to withdraw  
casing, remove plunger and  
push casing back in.  
6-1-8130 min dev w/ pumping plunger  
6-2-81  
backwash w/ big water  
dev 19 min w/ pump, plunger

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.  
**BW 4**PROJECT: BASF WYANDOTTEPERMIT NO.  
**914-813-482**

LOCATION

COUNTY

**WAYNE CO**

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

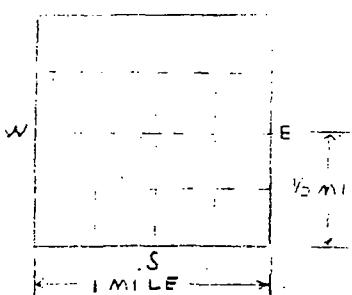
TOWN

RANGE

**T3S****NS****R11E****E1**LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION (NO SCALE)

N



SEE SITE MAP

N

PROPERTY OWNER **BASF WYANDOTTE**  
ADDRESS:

WELL DEPTH (COMPLETED) DATE OF COMPLETION

9' 6-2-81  
DRILLING METHOD(S)

DEPTH(S)

12

HISA

CASING: DIAMETER LENGTH HEIGHT  
2 IN 9 FT 1 ABOV SURFACE  
IN FT TYPE GALV  
WEIGHT

SCREEN: TYPE SS WWD DIAM. 2"

SLOT/GAUGE 7-10? LENGTH 2'

SET BETWEEN 7 FT. AND 9 FT.

WATER LEVELS FIRST NOTED AT FT BELOW SURFACE

6-24-81 AFTER COMPLETION 7.65 FT BELOW  
SURFACE OR CASING TOP X

SURFACE ELEVATION 6.48 9-14-81

GRD 583.5 TOC 585.55  
SEALING METHOD

1/3 SACK DRY BENTONITE

CREW INBILLS, PARISH, ENTERRODS

RECORD BY Edmund E. ElfrateDATE  
REMARKS  
SAMPLE AF = AUGER FLIGHT  
TYPE SS = SPLIT SPOND

DEPTH FROM TOP	THICKNESS OR STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0 4		LIMESTONE fines and stones to 1" diam, gray		AF
4 5	5	LS, ss above "Cinders", black	SS	
5 9		"Cinders" black	AF	
9 10		"Cinders" black	SS	
10 11		3" LS, sand, fine, gray 3" "Cinders" black Sweet smell	SS	
11 12	7	1" LS mud, gray 1" cinders black Sweet odor	SS	

SAND PACKED - 1 1/2 SKS SILICA SAND  
2 shovels cuttings  
1/3 sack dry bentonite

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

TEST WELL RECORD

WELL NO.

BW 7

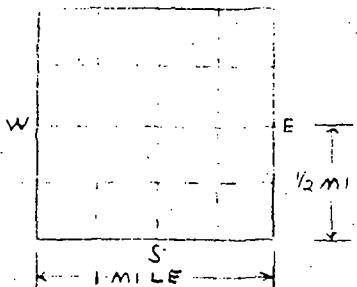
LOCATION  
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
[MARK WITH "X"]

N



SKETCH MAP OF LOCATION (NO SCALE)

SEE SITE MAP

FRACTION

1/4

1/4

1/4

1/4

SECTION NO.

TOWN

RANGE

T 3 S

W 1/2

E/W

PROPERTY OWNER BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

9.1

6-16-81

DRILLING METHOD(S)

HSA

11

CASING: DIAMETER LENGTH

2 IN. TO 9 FT. DEPTH

HEIGHT ABOVE SURFACE

19 FT

— IN. TO — FT. DEPTH TYPE GALV WEIGHT

SCREEN: TYPE SS WW DIAM. 2"

SLOT/GAUGE 1.0 LENGTH 2'

SET BETWEEN 7.1 FT. AND 9.1 FT.

WATER LEVELS FIRST NOTED AT 3 FT BELOW SURFACE

6-29-81

AFTER COMPLETION 4.62 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 4.48

GRO. 581.2 T.O.C. 583.11

SEALING METHOD 20 lb Volocly

CREWINGALLS, PARISH, ELTEROTH

RECORD BY Shreve & Elteroth

DATE

REMARKS

SAND PACK - 1 SACK

WATER STILL BLACK  
AFTER 30 min.

BW7B SS

PLUGGING AND ABANDONMENT METHOD

DATE

CREW

RECORD BY

## TEST WELL RECORD

WELL NO.

BW 6

PROJECT: BASF WYANDOTTE

PERMIT NO.

914-812-482

## LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

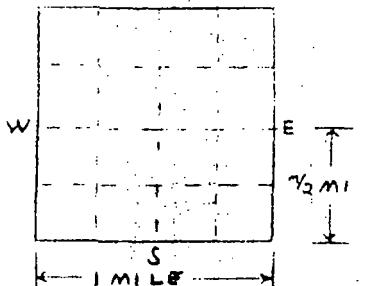
SECTION NO.

TOWN

RANGE

N

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

PROPERTY OWNER BASF WYANDOTTE  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

12.4 6-11-81

DRILLING METHOD(S) DEPTH(S)

HSA

CASING & LENGTH FT ABOVE SURFACE  
DIAMETER 2" IN. 13' 3" FT 2 1/2 FT  
IN. TYPE GALL  
WEIGHTSCREEN:  
TYPE SS WW DIAM. 2"  
SLOT/GAUGE 7.10? LENGTH 2'  
SET BETWEEN 10.4 FT. AND 12.4 FT.

WATER LEVELS:

FIRST NOTED AT 6-29-81 FT BELOW SURFACE  
AFTER COMPLETION 5-41 FT. BELOW  
SURFACE OR CASING TOP ~~TOP~~SURFACE ELEVATION 9-14-81 5.13  
GRD 580.4 T.D.C. 583.66SEALING METHOD  
2016 Vol/clay

CREW IN GALLS, PARISH, EL TROT

RECORD BY Elmer E. Eltyrode

DATE  
REMARKS

SAND PACKED - 1 2/3 sacks

DEPTH FROM	DEPTH TO	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO	TYPE
0	2	2	RUBBLE		AF
2	5	3	Sand & Silt, black, compact 1 ft recovery		AF
5	7	2	8" SILT & SAND, grey with Some brown, compact 4" black "cinder" material	BW6A	SS
7	10	3	(1 ft recovery) 6" cinders, black 6" asphaltic material black, hard, odor	BW6B	SS
10	12	2	(16" recovery) 6" cinders, black 2" hard material, white 8" Sand, fine, brown moderately compact		SS
12	13	1	(RUGERED) no recovery		

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT  
TEST WELL RECORD

WELL NO.  
**BW11**

PROJECT: **BASE WYANDOTTE**

PERM NO.  
**914-812-482**

LOCATION  
COUNTY

**WAYNE**

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)

N

E  
1/2 MI  
S

SEE SITE MAP

FRACTION  
**1 1/4 4 8**

SECTION NO.

**T3S**

NS

RANGE

**R11E**

TOWN  
**BASE WYANDOTTE**

PROPERTY OWNER  
ADDRESS

WELL DEPTH (COMPLETED) RATE OF COMPLETION

**15.5**

**6-16-81**

DRILLING METHOD(S)

**HSA**

CASING & DIAMETER  
**2 IN. TO 15.5 FT. 2.0 FT**

HEIGHT  
ABOVE SURFACE  
**2.0 FT**

IN. TO FT. DEPTH TYPE  
**WEIGHT**

SCREEN:  
TYPE SS WW DIAM. 2"

SLOT/GAUGE 7-10? LENGTH 2'

SET BETWEEN 13.5 FT. AND 15.5 FT.

WATER LEVELS  
FIRST NOTED AT **11** FT BELOW SURFACE

**6-29-81**

AFTER COMPLETION 10.98 FT BELOW  
SURFACE OR CASING TOP

SURFACE ELEVATION **9-14-81** 10.57

GRD. 588.9 T.O.C. 591.07  
SEALING METHOD  
**20 lb. volclay**

CREW/INGALLS, PARISH, ELZROTH

RECORD BY **Edward S. Ettinger**  
DATE  
REMARKS

SAND PACKED - 2 SACKS

**SS**

**SS**

**SS**

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORDED BY

## TEST WELL RECD.

B10 12 3

PHOTO #: BASE WYANDOTTE

911-812-418

## LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO

TOWN

RANGE

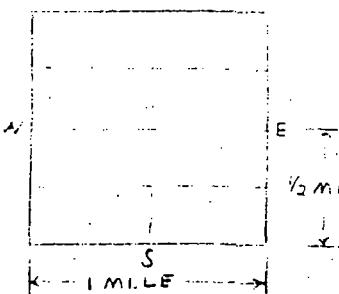
T 35 N R 11 E

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION (No. 1)

N

SEE SITE MAP



DEPTH FROM	DEPTH TO	THICKNESS OF STRATUM	DESCRIPTION
0	2	2 1/2	Sand & Stones, black, loose
2	2 1/2	2 1/2	Sand & stones, grey, loose
2 1/2	3 1/2	1	8" "asphaltic" material, black
			Sand & stones, black
			1" layer of white "sandy mud" (?)
4 1/2	6	1 1/2	14" "clayey" material, white
7 1/2	9 1/2	1 1/2	24" "clayey" material, white with scattered dark streaks
10	12	2	"Clayey" material, white becoming very wet
15	20	5	Silt and clay, black w/ some fibrous material - SAMPLE BW 12 CM 18' from withdrawn auger flight

SAMPLE  
IDENTIFICATION  
NO. + TYPEAF  
AF  
SS

BW12A SS

BW12B SS

SS

PROFILE

WATER LEVELS  
FIRST NOTED AT 10 FT. BELOW SURFACE  
6-29-81  
AFTER COMPLETION 6.94 FT. BELOW  
SURFACE IN Casing TOP X  
SURFACE ELEVATION 9-14-81 6.29  
GIRD 586.6 TOC 588.28

SEALING METHOD

CREW INCHES, PARISH, DISTRICT

RECORD BY Elmore Ettinger

DATE  
REMARKSPLUGGED ORIGINAL HOLE  
REDRILLED ABOUT 11 feet  
NORTH TO PLACE WELL

SAND PACKED WELL

PLUGGING AND ABANDONMENT METHOD  
BW 12 BORING - NATURAL  
MATERIAL + 1 PAIL VOLCLAY  
PELLETS

DATE  
CREW  
RECORD BY

## TEST WELL RECORD

WELL NO.

BW 13

PERMIT NO.

914-812-48

PROJECT: BASF WYANDOTTE

## LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

1/4

4

SECTION NO.

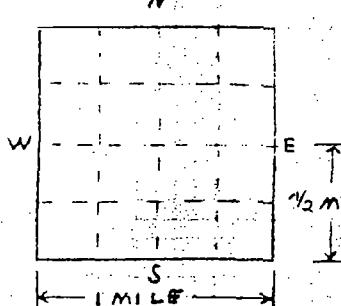
TOWN

T35

NS

RANGE

R11E

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.4 ft.

6-10-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING:

DIAMETER

LENGTH

ABOVE SURFACE

2 IN.

9 FT.

2.6 FT.

IN.

PT.

TYPE GALV

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUZE 7-10?

LENGTH 2'

SET BETWEEN 6.4 FT. AND 8.4 FT.

WATER LEVELS

FIRST NOTED AT

FT. BELOW SURFACE

6-29-81 AFTER COMPLETION 7.00 FT. BELOW

SURFACE OR CASING TOP

SURFACE ELEVATION 9-14-81 6.49

GRD 586.9 T.D.C. 589.65

SEALING METHOD

CREW INGALLS, PARISH, ELT 2RD

RECORD BY Elmore &amp; D. Groote

DATE

REMARKS

SAND PACKED - 2 bags 9 to 4 ft

LOW YIELD - WATER STILL  
GREY AFTER 30 MIN. PUMPING

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

## TEST WELL RECORD

WELL NO.

BW 1b

PROJECT: BASE WYANDOTTE

PERMIT NO.  
914-812-482

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

4

SECTION NO.

TOWN

T3S

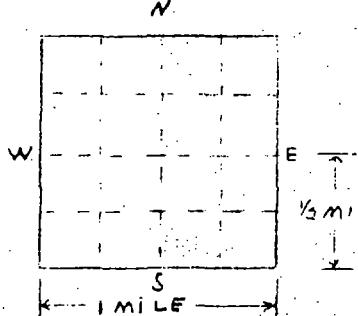
RANGE

R11E

LOCATION IN SECTION  
MARK WITH "X"

SKETCH MAP OF LOCATION [NO SCALE]

N



SEE SITE MAP

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.2

6-18-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING &  
DIAMETERHEIGHT  
1 ABOVE SURFACE

2 IN

3.3 FT

9.5 FT

TYPE 6-11V.

IN

WEIGHT

SCREEN:

TYPE SS WD DIAM. 2"

SLOT/GAUGE 7 LENGTH 2'

SET BETWEEN 6.2 FT. AND 8.3 FT.

WATER LEVELS

FIRST NOTED AT 5 FT. BELOW SURFACE

6-29-81  
AFTER COMPLETION 5.02 FT. BELOW  
SURFACE (OR CASING TOP)

SURFACE ELEVATION

GRD 576.2 TDC 599.60  
SEALING METHOD

2016 VOLCLAY

CREW/INGALLS, PARISH, ELZROTH

RECORD BY Elmore P. Elzroth

DATE  
REMARKS

SAND PACKED - 1 SACK

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

## GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 17

PERMIT NO.

914-812-482

PROJECT: BASE WYANDOTTE

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

1/4 4 4

SECTION NO.

TOWN

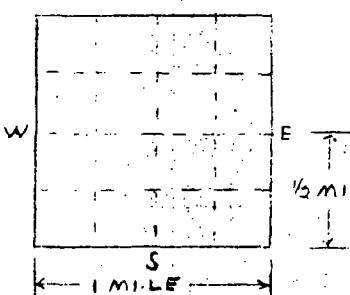
RANGE

T35 N<sup>S</sup> R11 ELOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

N

N



SEE SITE MAP

PROPERTY OWNER BASE WYANDOTTE  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

9.1

6-18-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING: DIAMETER LENGTH HEIGHT  
2 IN. 9 FT. 1.9 FT.  
IN. FT. TYPE 42 lb  
WEIGHT

SCREEN: TYPE SS WD DIAM. 2"

SLOT/CRETE 10 LENGTH 2'

SET BETWEEN 7.1 FT. AND 9.1 FT.

WATER LEVELS  
FIRST NOTED AT FT BELOW SURFACE  
6-29-81  
AFTER COMPLETION 6.02 FT BELOW  
SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 579.6 T.O.C. 581.40

SEALING METHOD  
20 lb Volday

CREW: INGALLS, PARISH, ELTERADT

RECORD BY Ethene S. Elliott

DATE  
REMARKS

SAND PACKED - 1 SACK

SS

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

DEPTH FROM	DEPTH TO	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	3	3	Sand & Gravel, brown		AF
3	5		(24" recovery)		
	0.3	4"	Clayey material, white	BW17A	SS
		16"	sand, medium, & gravel, grey, compact		
5	7		(10" recovery)		
		4"	Sand & gravel, grey		
		6"	Sand & Silt, black		
7	9		(14" recovery)		
		4"	wood		
	6.07	10"	sand, fine, and silt		
			grey with some brown and black, compact, H <sub>2</sub> S odor		
9	11		(16" recovery)		
		6"	sand & clay, grey to black		
	1	10"	clay grey		SS

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 18

PERMIT NO.

914-812-482

PROJECT: BASF WYANDOTTE

LOCATION

COUNTY

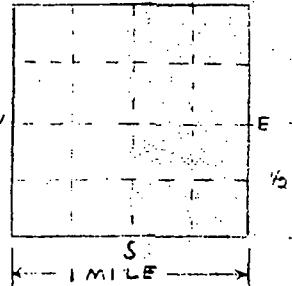
WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
MARK WITH "X"

SKETCH MAP OF LOCATION (NO SCALE)

N



SEE SITE MAP

N

SECTION NO. T3S NS R1E E1/4

RANGE

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.4 ft.

6-17-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASTING: DIAMETER

2 IN

HEIGHT

1 ABOVE SURFACE

9 FT

2.6 FT

IN.

TYPE GALV

FT. WEIGHT

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUGE 10

LENGTH 2'

SET BETWEEN 6.4 FT. AND 8.4 FT.

WATER LEVELS

FIRST NOTED AT 6.24-81 FT BELOW SURFACE

AFTER COMPLETION 5.59 FT. BELOW SURFACE  OR CASING TOP 

SURFACE ELEVATION

6RD 579.2 T.O.C. 581.86

SEALING METHOD

20 LB VOLCLAY

CREWINGALLS, PARISH, ST. TRO

RECORD BY Elmore E. Ettinger

DATE

REMARKS

DEPTH FROM	THICKNESS TO STATION	DESCRIPTION	SAMPLE IDENTIFICATION NO	TYPE
0	1	CINDERS		AF
1	3	CLAY(?) light grey (16" recovery)		AF
3	5	CINDERS, black to grey		SS
5	7.5	(8" recovery)		
	8.5	Cinders, black strong odor	BW18A	SS
7.5	10	(16" recovery)		
	2.5	Clay, black grading to grey, odor	BW18B	SS

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

## TEST WELL RECORD

WELL NO.

BW 19

PROJECT: BASF WYANDOTTE

PERMIT NO.

914-812-482

## LOCATION

COUNTY

WYANDOTTE

TOWNSHIP NAME

STREET ADDRESS AND CITY OF WELL LOCATION

FRACTION

1/4

R

S

SECTION NO.

TOWN

T3S

MS

R 11E

E1

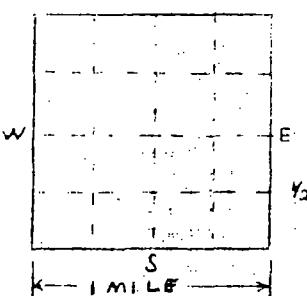
RANGE

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION [NO SCALE]

N

N



SEE SITE MAP

WELL DEPTH (COMPLETED) DATE OF COMPLETION

4.1

6-24-81

DRILLING METHOD(S)

HSA

CASING &amp; DIAMETER LENGTH HEIGHT ABOVE SURFACE

2 IN.

4.25 FT.

7

IN.

FT.

TYPE GALV. WEIGHT

## SCREEN:

TYPE SS LOW DIAM. 2"

SLOT/GAUGE 10# LENGTH 2"

SET BETWEEN 2.1 FT. AND 3.1 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

AFTER COMPLETION 4.64 FT. BELOW

SURFACE OR CASING TOP

SURFACE ELEVATION

6-29-81 T.D.C. 582.21

SEALING METHOD

6" dry bentonite

CREWING ALLS, PARISH, ELIZZROTH

RECORD BY Elmore Ed Electrode

DATE

REMARKS

Sand packed - 1 1/4 sections

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT  
TEST WELL RECORD

WELL NO.

BW 20

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-482

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

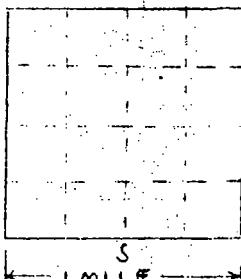
T 3 S

N 11 E

LOCATION IN SECTION

[MARK WITH "X"]

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAPS

SECTION NO.

PROPERTY OWNER

TOWN

RANGE

T 3 S

N 11 E

PROPERTY OWNER BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

4.5

6-24-81

DRILLING METHOD(S) DEPTH(ES)

HSA

7

CASING: LENGTH | HEIGHT ABOVE SURFACE

DIA. 2 IN.

1.7 FT.

4,25FT

IN.

TYPE GALV

WEIGHT

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GAUGE 1.0

LENGTH 21

SET BETWEEN 2.5 FT. AND 4.5 FT.

WATER LEVELs

FIRST NOTED AT

FT. BELOW SURFACE

6-24-81

AFTER COMPLETION 2.85 FT. BELOW

SURFACE OR CASING TOP

10

SURFACE ELEVATION

GRD 578.3

T.D.C. 580.1

SEALING METHOD

3" dry bentonite

CREW INGALLS, PARISH, ELTROT

RECORD BY Claude E. Eltrot

DATE

REMARKS

SAND PACKED - 1/4 Sack

DEPTH FROM	THICKNESS OR STRATUM TO	DESCRIPTION	SAMPLE IDENTIFICATION NO	TYPE
0 3		Sand, clay & stones, black (20" recovery)		AF
3 5		8" "cindery" dark brown to black		
		1/2" x 2" <del>stone</del> , vitreous black, conchoidal fractures	BU20A SS (upper 10" only)	
		2" stone, vitreous, lt grey hardness > 5 (slag?)		
		9" clay, brown, stiff		
3 11		vegetation (16" recovery)		SS
5 7		16" clay, grey and brown, plastic with 1" layer of peat		

PLUGGING AND ABANDONMENT METHOD

DATE

CREW

RECORD BY

## TEST WELL RECORD

WELL NO.  
BW 21

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-4182LOCATION  
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

N E S W

SECTION NO.

TOWN

735

RANGE

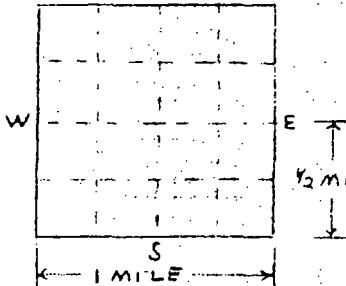
R11E

LOCATION IN SECTION  
MARK WITH "X"

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAPS

N



DEPTH FROM	DEPTH TO	THICKNESS OR STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	SAMPLE TYPE
0	1		Sand & gravel (LIMESTONE), grey		AF
1	3		Sand & gravel, brown		AF
3	5		(8" recovery)		SS
	6	6"	cindery, black		
		2"	sand, fine & gravel, tan		
5	7	(16" recovery)		BW21A	SS
		8"	loose brown material		
		8"	white to grey "sludge" odor		
7	9.5	(24" recovery)			
		16"	clayey "sludge", light brown, soft	BW21B	SS Bottom 16"
		8"	clayey "sludge", tan		
8.5		to white, soft			
		Odor			
9.5	12.5	(20" recovery - soft)			
		20"	"sludge", brown to tan top 4" lighter, soft with 1/2" varves in bottom of sample		
12.5	15	(20" recovery)			
		12"	"sludge" grey	BW21C	SS bottom 8"
		6"	clayey material, reddish brown		
5		2"	organic, black - odor		

PROPERTY OWNER  
BASF WYANDOTTE  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

13.6

6-24-81

DRILLING METHOD(S) DEPTH(S)

HSA

15

CASING &  
DIAMETER

2 IN.

15

LENGTH FT ABOVE SURFACE

14 FT

24 FT

IN. TYPE GALV

1 IN.

WEIGHT

SCREEN: TYPE SS WW DIAM. 2"

SLOT/GAUGE 10

LENGTH 2'

SET BETWEEN 11.6 FT. AND 13.6 FT.

WATER LEVELS

FIRST NOTED AT

FT BELOW SURFACE

6-24-81

AFTER COMPLETION 4.07 FT BELOW  
SURFACED OR CASING TOP

SURFACE ELEVATION

GRD 579.0

T.D.L. 581.38

SCALING METHOD

20 lbs volatile pellets

REWINDALLS, PARISH, ELTROT

RECORD BY Elmore S. Elliott

DATE

REMARKS

SAND PACKED - 3 1/2 sacks

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

## TEST WELL RECORD

WELL NO.

BW 22

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-482

LOCATION

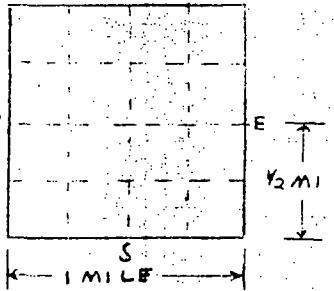
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
MARK WITH "X"

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

SECTION NO.

TOWN

RANGE

T 3S NS R 11E E/W

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

5

6-25-81

DRILLING METHOD(S)

HSA

7

CASING:

DIAMETER LENGTH HEIGHT ABOVE SURFACE  
2 IN. 4.25FT. 1 1/2 FT.  
IN. FT. TYPE GALV  
WEIGHT

SCREEN:

TYPE SS WW DIAM. 2 1/2

SLOT/GAUGE 7-10 LENGTH 2'

SET BETWEEN 3 FT. AND 5 FT.

WATER LEVELS

FIRST NOTED AT FT. BELOW SURFACE  
6-24-81  
AFTER COMPLETION 3.46 FT. BELOW  
SURFACE OR CASING TOP

SURFACE ELEVATION

612 580.8 T.D.C. 582.12  
SCALING METHOD

20 lb. volclay pellets

CREW IN-LADS, PARISH, ELTRROT

RECORD BY Phineas E. Ettinger

DATE  
REMARKSSand packed - 1 1/2 sacks  
may have some back paper  
in hole.

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

## GROUNDRATE INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 23

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

PERMIT NO.

914-812-482

PROJECT: BASF WYANDOTTE

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T3S

N12

E1W

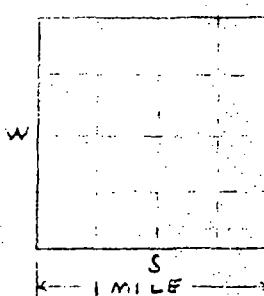
LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION TWO SKETCHES

SEE SITE MAP

N

↑



DEPTH FROM	DEPTH TO	THICKNESS IN STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	2	1	SAND & STONES, grey		AF
2	3	1	Sand & Stones, black		AF
3	5	2	(18" recovery)	BW23A SS	
		4"	Sand & cinders, medium, black		
		8"	sand, fine, black		
		6"	sand, fine, brownish yellow, compact		
5	7	2	(22" recovery)		
6		6"	sand, fine, brown		
7		16"	clay, brown, silty, stiff		

PROPERTY OWNER BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

5.3

6-22-81

DRILLING METHOD(S)

HSA

CASING &  
DIAMETER

2 IN.

LENGTH

4.5 FT

HEIGHT  
ABOVE SURFACE

12 FT

IN.

FT.

TYPE GRV

WEIGHT

SCREEN:

TYPE SS WW

DIAM. 2"

SLOT/GALVE 10

LENGTH 2'

SET BETWEEN 3.3 FT. AND 5.3 FT.

WATER LEVELS

FIRST NOTED AT FT BELOW SURFACE

6-29-81 AFTER COMPLETION 3.75 FT BELOW

SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 579.3 T.D.L. 580.54  
SEALING METHOD6" ( $\frac{1}{4}$  bag) dry bentonite

CREW IN BALLS, PARISH, ELTCROT

RECORD BY Elmore E. Ettrick

DATE

REMARKS

SS SAND PACKED - 1 SACK  
H.S.A. plugged with 12  
placed sand in open hole

PLUGGING AND ABANDONMENT METHOD

DATE

CREW

RECORDED BY

## TEST WELL RECORD

WELL NO.

BW 25

PERMIT NO.

914-812-48

PROJECT: BASF WYANDOTTE

LOCATION

COUNTY

WAYNE

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

STREET ADDRESS AND CITY OF WELL LOCATION

T3S

N1S

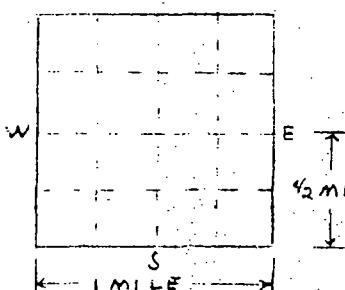
R1E

LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N



PROPERTY OWNER BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

8.2

6-23-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING DIAMETER

2 IN.

9

LENGTH  
IN. FT.

128 FT

TYPE GOLV

WEIGHT

SCREEN: SS WW DIAM. 2"

TYPE SLOT/GAUGE 7 LENGTH 2'

SET BETWEEN 6.2 FT. AND 8.2 FT.

WATER LEVELS

FIRST NOTED AT 6-29-81 FT BELOW SURFACE  
AFTER COMPLETION 5.02 FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

GRD 582.9 585.79

SEALING METHOD

6" powdered bentonite

CREW IN BALLS, PARISH, SHTZER

RECORD BY Elmore S. Elzette

DATE  
REMARKS

Sand packed - 1 sack

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

DEPTH FROM	DEPTH TO	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	TYPE
0	8"		Sand, clay & stones black		AF
8"	3'		Sand, clay & stones brown		AF
3	5		(14" recovery)		
			Stones & clayey material BW25A SS grey to white	BW25A	SS
5	7		(16" recovery)		S.S.
			Clay, sand and stones grey with 1" layer of sand		
			and clay, brown		
7	9		(16" recovery)		SS
			4" Sand & clay, brown		
			3" Cinders, clayey, black		
			10" Clay, brown, stiff dry in bottom		

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 27

PERMIT NO.

914-812-482

PROJECT: BASEF WYANDOTTE

LOCATION

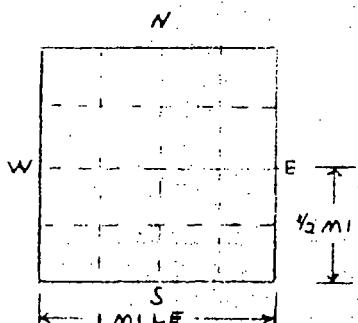
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION [NO SCALE]



SECTION NO. T 3 S NS TOWNSHIP NAME R 11 E 11 RANGE

PROPERTY OWNER BASEF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

10 ft. 6-23-81

DRILLING METHOD(S) DEPTH(S)

HSA

14

CASING DIAMETER LENGTH HEIGHT ABOVE SURFACE  
2 IN. 11 3/8 FT. 3 1/2 FT.  
IN. FT. TYPE GALV  
WEIGHTSCREEN: SS WW DIAM. 2"  
TYPE

SLOT/GAUGE 7-10 LENGTH 2"

SET BETWEEN 8 FT. AND 10 FT.

WATER LEVELS  
FIRST NOTED AT 6-29-81 FT BELOW SURFACE  
AFTER COMPLETION 9.66 FT BELOW  
SURFACE OR CASING TOP

SURFACE ELEVATION

6RD 582.4 TOC 585.77  
SEALING METHOD

20 lbs volclay pellets

CREW IN HALLS, PARISH, ELTZER

RECORD BY Elmer E Ottrott

DATE

REMARKS

Sand packed - 2 1/2 sacks

DEPTH FROM	THICKNESS TO STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE	
0. 4		Clay, Sand, & Stones, brown (16" recovery)	A F	
4 1 6.5		16" clayey material with gravel, white to grey (12" recovery - refusal at 8")	BW27A	SS
6.5 8.5		1" clay & sand, black 11" clay, brown, stiff (16" recovery - top 1' difficult driving)	SS	
8.5 11.5		7" clay & angular stones, very compact, grey 1/2" AS Above, brown 2" clayey material, light tan 1" stone 1" Sand & stone, black 1" Sand & gravel, brown 3" clayey material, light tan (20" recovery)	BW27B	SS
11.5 14		3" clay, light tan silty 8" clay, light brown, silty, stiff, fractures 4" sand, fine, light brown 6" clay, light brown, *		SS

\* Strongly varved ~~but~~ but  
with 10° dip, stiff

PLUGGING AND ABANDONMENT METHOD

DATE  
CREW  
RECORD BY

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 30

PROJECT: BASF WYANDOTTE

PERM. NO.  
914-812-482LOCATION  
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

SECTION NO.

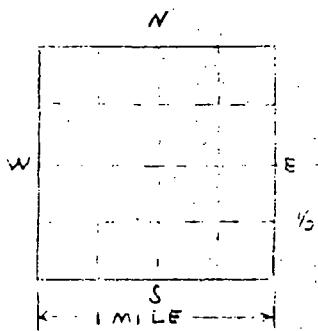
TOWN

RANGE

T 3 S NS R 11 E E/W

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)



SEE SITE MAP

N



WELL DEPTH (COMPLETED) DATE OF COMPLETION

6-2-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING:

DIAMETER

LENGTH

NONE

FT

HEIGHT

ABOVE SURFACE

FT

IN.

FT.

TYPE

WEIGHT

SCREEN:

TYPE

DIAM.

SLOT/GROOVE

LENGTH

SET BETWEEN

FT. AND

FT.

WATER LEVEL

FIRST NOTED AT FT. BELOW SURFACE

AFTER COMPLETION FT. BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

CREW INVOLVED - PARISH - ELTGROTH

RECORD BY Elmore E. Ellgrotte

DATE

REMARKS

DEPTH FROM TO	THICKNESS OF STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO. TYPE
0 6		LS, fine & stones, gray	AF
7 1/2 8 1/2	8	8" LS(?) fine, white, hard	SS
		8" "Cinders" black	
9 11	3	16" "Cinders" black	SS
11 13		Sand, fine & silt	SS
	5	dark brown to brown	
14 16		Sand, fine & silt brown	SS

PLUGGING AND ABANDONMENT METHOD

Bentonite + natural materials

DATE

6-2-81

CREW

RECORD BY

Elmore Ellgrotte

ENVIRONMENTAL SEV/EPD, INC.  
GROUNDWATER INVESTIGATION UNIT  
TEST WELL RECORD

WELL NO.

BW 31

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-482

TOWNSHIP NAME

FRACTION

SECTION NO.

TOWN

RANGE

T3S

N

E

1/4 4 \*

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

6-2-81

DEPTH(S)

DRILLING METHOD(S)

HSP

CASING'S DIAMETER LENGTH

ADIVE FT

10

HEIGHT ABOVE SURFACE FT

TYPE

WEIGHT

SCREEN:

TYPE

DIAM.

SLOT/GAUGE NONE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVEL

FIRST NOTED AT FT BELOW SURFACE

AFTER COMPLETION FT BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

CREW INGALLS PARISH SALTER

RECORD BY Elmore E. Ettrick

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

1/2 sack dry bentonite  
+ natural material

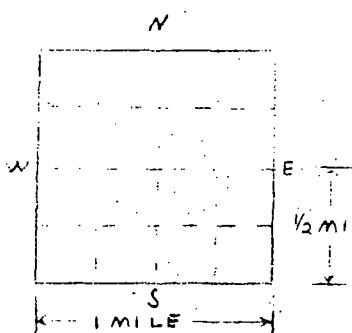
DATE 6-2-81

CREW

RECORD BY

Elmore E. Ettrick

LOCATION IN SECTION  
(MARK WITH "X")



SKETCH MAP OF LOCATION (NO SCALE)

SEE SITE MAP

N

DEPTH FROM	DEPTH TO	THICKNESS OR STRATUM	DESCRIPTION	SAMPLE IDENTIFICATION NO.	SAMPLE TYPE
0	8		Sand, fine, dk brn to black with 1 to 2" stones		AF
8	10	8"	Sand, fine, greenish brown w/ some black, no odor		SS

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW32

LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

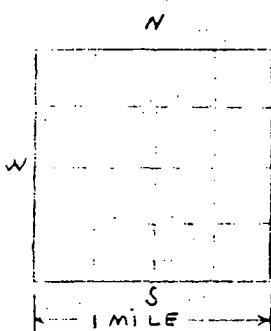
FRACTION

SECTION NO.

TOWN

RANGE

T35 NIS (R) E E

LOCATION IN SECTION  
[MARK WITH "X"]

SKETCH MAP OF LOCATION [NO SCALE]

ABOUT 100' NORTH  
OF BW33

N

PROPERTY OWNER BASF WYANDOTTE  
ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

2

6-10-81

DEPTH(S)

DRILLING METHOD(S)

Shovel

CASING: DIAMETER LENGTH HEIGHT  
IN IN FT. ABOVE SURFACE FT.

none

2

TYPE WEIGHT

DIAM.

SCREEN: TYPE

SLOT/GAUZE none LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS FIRST NOTED AT none BELOW SURFACE

AFTER COMPLETION FT. BELOW SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

CREW Ingalls, Parish Elzey

RECORD BY Elmore E. Elzey

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

Backfilled with  
excavated material

DATE

CREW

RECORD BY Elmore Elzey

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT  
TEST WELL RECORD

WELL NO.

BW 33

PROJECT: BASF WYANDOTTE

PERMIT NO.  
914-812-4

LOCATION  
COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

FRACTION

1/4    4    \*

SECTION NO.

TOWN

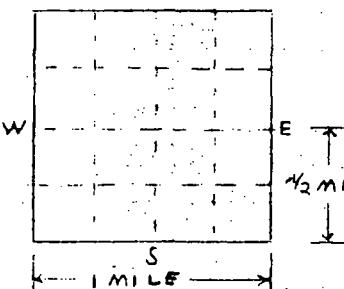
T 35 NS

R 11 E

RANGE

LOCATION IN SECTION  
[MARK WITH "X"]

N



SKETCH MAP OF LOCATION [NO SCALE]

SEE SITE MAP

N

PROPERTY OWNER  
BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

12

DRILLING METHOD(S) DEPTH(S)

HGA

CASING? DIA METER LENGTH HEIGHT ABOVE SURFACE  
none IN FT TYPE  
IN. FT. WEIGHT

SCREEN?

TYPE none DIAM.

SLOT/GAUGE LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS

FIRST NOTED AT FT. BELOW SURFACE

AFTER COMPLETION FT. BELOW  
SURFACE OR CASING TOP

SURFACE ELEVATION

SEALING METHOD

CREW (NAME), PARISH, STATE

RECORD BY Elmore S. Etzrodt

DATE  
REMARKS

PLUGGING AND ABANDONMENT METHOD

Bentonite + nat. meter

DATE

CREW

RECORD BY

Elmore S. Etzrodt

## TEST WELL RECORD

WELL NO.

BW 34

PERMIT NO.

914-812-482

PROJECT: BASE WYANDOTTE

## LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)

N

SEE SITE MAP

N

SECTION NO.

TOWN

RANGE

T 3 S NS R 11 E E/W

PROPERTY OWNER BASE WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

1D

6-17-81

DRILLING METHOD(S)

DEPTH(S)

HSA

CASING:

DIAMETER

LENGTH

HEIGHT

NAME

FT.

ABOVE SURFACE

IN.

FT.

FT.

TYPE

WEIGHT

SCREEN:

TYPE

DIAM.

SLOT/GAUGE

LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS

FIRST NOTED AT

FT. BELOW SURFACE

AFTER COMPLETION FT. BELOW  
SURFACE  OR CASING TOP 

SURFACE ELEVATION

6RD 579.7

SEALING METHOD

CREW INGALLS, PARISH, ELIZORDI

RECORD BY Ethelred E. Ethrote

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

BACKFILLED WITH  
NATURAL MATERIALDATE 6-17-81  
CREW

RECORD BY Ethelred E. Ethrote

ENVIRONMENTAL SERVICES DIVISION  
GROUNDWATER INVESTIGATION UNIT

## TEST WELL RECORD

WELL NO.

BW 35

PROJECT: BASF WYANDOTTE

PERMIT NO.

914-812-482

## LOCATION

COUNTY

WAYNE

STREET ADDRESS AND CITY OF WELL LOCATION

TOWNSHIP NAME

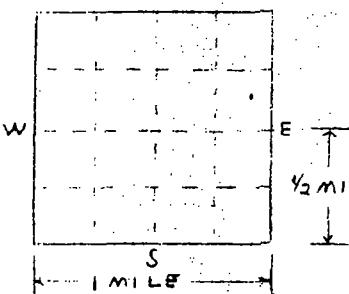
FRACTION

SECTION NO.

TOWN

RANGE

T 3 S NS R 11 E

LOCATION IN SECTION  
(MARK WITH "X")

SKETCH MAP OF LOCATION (NO SCALE)

SEE SITE MAP

N

4' EAST OF BW 25

## DESCRIPTION

SAMPLE IDENTIFICATION  
NO. TYPEDEPTH  
FROM TO  
THICKNESS  
OF STRATUM

0	12	Sand & Clay	AF
12	13	HEAVY RESISTANCE AT 12ft	AF
13	14	Clay, gravel, soupy	AF

PROPERTY OWNER

BASF WYANDOTTE

ADDRESS

WELL DEPTH (COMPLETED) DATE OF COMPLETION

6-23-81

DRILLING METHOD(S)

DEPTH(S)

HSA

14

CASING: DIAMETER LENGTH HEIGHT ABOVE SURFACE FT.

IN. NONE FT.

TYPE WEIGHT

SCREEN:

TYPE DIAM. LENGTH

SLOT/GAUZE

LENGTH

SET BETWEEN FT. AND FT.

WATER LEVELS FIRST NOTED AT FT. BELOW SURFACE

AFTER COMPLETION FT. BELOW SURFACE  OR CASING TOP 

SURFACE ELEVATION

GRD 582.8 SEALING METHOD

NATURAL MATERIALS

CREW IN WALLS, PARISH, ELT 2RD

RECORD BY Elmore E. Elzroth

DATE

REMARKS

PLUGGING AND ABANDONMENT METHOD

NATURAL MATERIALS

DATE 6-23-81

CREW

RECORD BY Elmore E. Elzroth